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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,696	04/09/2004	Won-Kyu Bang	P57046	8730

7590 06/20/2005

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EXAMINER	
BROUSSARD, COREY M	

ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/820,696	BANG ET AL.	
	Examiner	Art Unit	
	Corey M. Broussard	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/01/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 6 and 8-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuoka et al. (PN 6,104,451). With respect to claim 1, Matsuoka teaches a display apparatus, comprising: a display panel (100); a chassis (200) comprising a base (221) that supports the display panel, the chassis further comprising a flange (upper portion of 230, see Fig. 1) formed along an upper edge of the base and arranged to prevent the base from bending, the flange being perforated by a hole (see Fig. 1 illustrating air currents moving through the flange, Fig. 8, and col 6, 41-43); a printed circuit board (20) with parts mounted thereon, the printed circuit board being mounted on the base of the chassis and being adapted to drive the display panel (col 4, 4-7); and a case (1000) accommodating the display panel, the chassis, and the printed circuit board (see Fig. 1).

3. With respect to claim 2, Matsuoka teaches wherein the case (1000) is perforated by a plurality of air inlet holes (1041, 1042) in a rear lower portion and a plurality of air outlet holes (1040) in a rear upper portion (see Fig. 1, 3d, 9, and col 11, 21-35).

4. With respect to claim 3, Matsuoka teaches wherein the flange (upper portion of 230) is perforated by a plurality of air passage holes (see Fig.1 and 9, in Fig. 1 air flow lines are used to show the flow of air through the flange 230).

5. With respect to claim 5, Matsuoka teaches the hole perforating the flange being elliptical in shape (see Fig. 9 clearly showing round holes which are elliptical).

6. With respect to claim 6, Matsuoka teaches wherein the chassis further comprising a reinforcing rib (222).

7. With respect to claim 8, Matsuoka teaches wherein the hole perforating the flange (holes of 230) is in operational relationship with the plurality of air outlet holes (1040) perforating the case (1000, see Fig. 1, 9, col 11, 32-35).

8. With respect to claim 9, Matsuoka teaches wherein the air inlet holes (1041, 1042) and the air outlet holes (1040) is on a rear cover (1020) of the case (col 11, 8-15), the flange (upper portion of 230) on the chassis (200) being essentially perpendicular to the base of the chassis (221) and extending towards said rear cover (see Fig. 1 the upper portion of 230 meets the base 221 at an essentially perpendicular angle).

9. With respect to claim 10, Matsuoka teaches wherein the hole in the flange (upper portion of 230) is near the air outlet holes (1040) in the rear cover (1020, see Fig. 1, 9).

10. With respect to claim 11, Matsuoka teaches wherein the display apparatus is absent a fan (see col 5 33-37).

11. With respect to claim 12, Matsuoka teaches wherein the display panel (100) is a plasma display panel (col 17, 26-29).

12. With respect to claim 13, Matsuoka teaches wherein the display apparatus further comprises flexible printed circuits (171) adapted to drive the display (see col 13, 65-7).

13. With respect to claim 14, Matsuoka teaches a display apparatus, comprising: a display panel (100) displaying variable images; a chassis (200) comprising a base (221), the base of the chassis supporting the display panel (see Fig. 1), the chassis further comprising a flange (upper portion of 230) formed along an upper edge of the base, the flange being arranged to prevent the base of the chassis from bending, the flange being perforated by a hole (see Fig. 1 illustrating air currents moving through the flange, Fig. 8, and col 6, 41-43); a printed circuit board (20) with parts mounted thereon, the printed circuit board being mounted on the base of the chassis, the parts on the printed circuit board being adapted to drive the display panel; and a case (1000) housing the display panel, the chassis, and the printed circuit board, the case having a rear cover (1020) perforated by two sets of holes (1040-1042), the hole on the flange being near one of said two sets of holes in said rear cover (1040 see Fig. 9).

14. With respect to claim 15, Matsuoka teaches wherein the two sets of holes (1040-1042) in the rear cover (1020) and the hole in the flange of the chassis being arranged to provide less obstruction to convection currents brought about by hot air rising from the printed circuit board and the parts thereon being heated while driving the display panel (see Fig. 1, the air currents illustrated show air flowing through the upper portion of 230 and out of the case, see also col 11, 20-35).

15. With respect to claim 16, Matsuoka teaches wherein the printed circuit board (20) is on a rear side of the chassis base (221), the display being (100) on a front side of the chassis base, the flange (upper portion of 230) being on a rear side of the chassis base (see Fig. 1, the display is on the front side in order to be viewed when in operation, and the pcb and flange are on the opposite side of the chassis base).

16. With respect to claim 17, Matsuoka teaches wherein the display apparatus is a plasma display(col 17, 26-29).

17. With respect to claim 18, Matsuoka teaches wherein the flange (upper portion of 230) is perforated by a plurality of elliptical-shaped holes along an entire length of the flange (see Fig. 8, the upper portion of 230 has many elliptical-shaped holes).

18. With respect to claim 19 and 20, Matsuoka teaches wherein the chassis further comprising a reinforcing rib (222) attached to an end of the flange (the rib 222 is attached to the an end of the flange 230 through the base 221, se Fig. 1) opposite the base (the rib is on an opposite side of the base from the flange, see Fig. 2), the reinforcing rib running along an entire length of the flange (see Fig. 2).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuoka et al. (PN 6,104,451). With respect to claim 4, Matsuoka lacks specific teaching of the holes of the flange being rectangular in shape. A change in the shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Therefore it would have been obvious to a person of ordinary skill in the art to choose rectangular shaped holes for the benefit of a larger opening ratio (see col 15, 50-52).

21. With respect to claim 7, Matsuoka lacks the specific teaching wherein the base and the flange are formed as a single integrated monolithic unit. It has been held that that the use of a one-piece construction instead of the structure disclosed in the prior art would be merely a matter of obvious engineering choice. In re Larson, 144 USPQ 347, (CCPA 1965). Therefore it would have been obvious to a person of ordinary skill in the art to make the flange and base integral for the benefit of a stronger connection with improved thermal and electrical conducting properties.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Griffin et al. (4,980,848), Wyler (PN 5,596,483), Huang (US Pub 2005/0041390) demonstrating teachings of elliptical and rectangular shaped holes for ventilation. DiStefano et al. (PN 6,577,502) and Heirich et al. (PN 6,594,147) teaching display cases utilizing convection cooling.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey M. Broussard whose telephone number is 571 272 2799. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ANATOLY VORTMAN
PRIMARY EXAMINER